SEMAKIN, N.K. (g.Moskva)

People's observatory and work in astronomy outside of classes. Fiz. v shkole 20 no.3:85-87 My-Je '60. (MIRA 13:11)
(Astronomy--Study and teaching)

SEMAKIN, N.K., uchitel'

People's observatory and extracurricular work on geography. (MIRA 14:3)
Geog. v shkole 24 no.2:87-88 Mr-Ap '61.

1. 500- ya shkola Moskvy.
(Moscow—Astronomical observations)

PEREL', Yu.G.; POPOV, P.I.; MARTYNOV, D.Ya.; KUNITSKIY, R.V.; VORONTSOV-VEL'YAMINOV, B.A.; BAZYKIN, V.V.; KULIKOV, K.A.; SHISTOVSKIY, K.N.; TSVETOV, R.I.; BRONSHTEN, V.A.; DAGAYEV, M.M.; MOGILKO, A.D.; SEMAKIN, N.K.; DMITRIYEV, L.S.; IZOTOV, A.A.

Mihail Evgen'evich Nabokov; obituray. Buil.VAGO no.28:60-62 '60. (MIRA 14:6)

(Nabokov, Mikhail Evgen'evich, 1887-1960

BAZYKIN, V.V.; BRONSHTEN, V.A.; VORONTSOV-VEL'YAMINOV, B.A.; DAGAYEV, M.M.; DMITRIYEV, L.S.; IZOTOV, A.A.; KULIKOV, K.A.; KUNITSKIY, R.V.; MARTYNOV, D.Ya.; MINCHENKOV, Ye.Ya.; MOGILKO, A.D.; PERL', Yu.G.; POPOV, P.I.; REZNIKOV, L.I.; SVETLOV, R.I.; SEMAKIN, L.K.; SHISTOVSKIY, K.N.

Mikhail Evgen'evich Nabokov; obituary. Fiz. v shkole 20 no.3:110-111 My-Je '60. (MIRA 13:11)

(Nabokov, Mikhail Evgen'evich, 1887-1960)

SEMAKIN, N. K. (Moskva); DEREVEN'KO, N. A.

Homemade school planetaria. Fiz. v shkole 22 no.4:69-77 Jl-Ag '62. (MIRA 15:10)

1. 1-ya Svesskaya srednyaya shkola Yampol'skogo rayona Sumskoy oblasti, UkrSSR (for Dereven'ko).

(Planetaria)

SEMAKIN, N.K. (Moskva)

School and a planetarium. Fiz.v shkole 22 no.5:58-60 S-O '62.
(MIRA 15:12)

(Astronomy--Audio-visual aids) (Planetaria)

SEMAKIN, N.K.

Aid for teaching the topic "Orientation by the North Star."
Geog. v shkole 26 no.4:57 Jl-Ag '63. (MIRA 17:1)

1. 500-ya shkola Moskvy.

SOV/86-58-11-32/37

AUTHOR: Semakin, V. I., Lt Col, and Medvedev, A. V., Maj

TITLE: More on the Arrangement of Flight-Navigational Instruments (Yeshche raz o komponovke pilotazhno-navigatsionnykh priborov)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 11, p 88 (USSR)

ABSTRACT: The authors suggest that few changes in the arrangement of flight-navigational instruments on the instrument panel of a fighter airplane should be made in addition to those recommended by LtCol V.V. Markin in his article, "The Arrangement of Flight-Navigational Instruments Should Be Changed" (the article was published in issue Nr 9 of this periodical in 1958). One photo.

Card 1/1

27404
S/089/61/011/003/005/013
B102/B138

21.2100
21.4000

AUTHORS: Vil'komirskiy, I. Ye., Silina, G. F., Berengard, A. S., Semakin, V. N.

TITLE: Production of high-purity beryllium by the chloride method

PERIODICAL: Atomnaya energiya, v. 11, no. 3, 1961, 233-239

TEXT: Chlorination of beryllium oxide with carbon tetrachloride followed by the electrolysis of the resulting beryllium chloride with NaCl is a well-known method of producing high-purity beryllium. The industrial applicability of this procedure, however, has long been questioned, and only in recent years have prospects appeared to improve. The report describes a successfully tested possibility of producing this reaction on an industrial scale. The starting material was BeO with base-metal impurities not exceeding 0.006%. Briquettes were prepared from roasted oxides with a beryllium content not below 28%. Starch paste or dextrin were used as binding agents. Filtered commercial grade carbon tetrachloride was used for chlorination. Laboratory tests showed that the chlorination rate increases with the rise in temperature 500-700°C. while

Card 1/7

further rise in temperature had no effect. Thermal dissociation of CCl_4 begins at 600°C, and contamination by carbon is observed at 800°C. The optimum temperature range was found to be between 650 and 700°C. The optimum flow rate of CCl_4 was found to be 2.4 kg/min per m^2 of furnace cross section. Nickel and alloys on nickel base in Cl, $BeCl_2$, or CCl_4 atmospheres at temperatures up to 300°C were found to be the most convenient condenser materials. Condensers were therefore prepared from nickel. Fig. 3 gives a diagram of a chlorination furnace that has stood its test in industrial operation (25-30 days run). Both furnaces and condensers are heated in a nitrogen flow. In a pilot run (production of beryllium chloride from pure and commercial beryllium oxide) 25 tons of $BeCl_2$ were produced, and the following averages were obtained: CCl_4 consumption per kg of $BeCl_2$: 1.6 kg; degree of condensation of $BeCl_2$: 97.8%; direct beryllium yield: 85.7%, and extraction up to 96% if the residues are recycled. The mean $BeCl_2$ yield ranged between 86.6 and 88%, and the degree of chlorination was about 94%. Like chlorination, the electrolytic

Production of high-purity ...

production of pure beryllium was first studied in laboratory tests, and optimum conditions were established. Chemically pure NaCl was used in beryllium-coated nickel crucibles. The cathode also consisted of beryllium-coated nickel. Electrolysis took place at 330-350°C. The purity of the resulting beryllium, depending on the size of the crystals obtained, was 99.966% (>3mm) and 99.937% (<3mm). Pilot-plant tests were conducted in quartz crucibles holding 35 kg of electrolyte. The resulting metal was remelted in vacuum to remove impurities. The chemical analysis showed a relatively high Ni impurity (maximum $4 \cdot 10^{-2}$%), due to cathode corrosion. Experiments with graphic cathodes produced satisfactory results. A diagram of the electrolytic vessel used for producing Be on an industrial scale is shown in Fig. 5. Here the temperature ranged between 320 and 340°C, and the initial cathode current density was 6.5-7.5 a/dm^2 (optimum). The NaCl and $BeCl_2$ concentrations were adjusted by additions every 24 hours, and the beryllium content in the electrolyte range from 6 at the beginning to 5.5% at the end of cycle. The metal yield was 2.0-2.2 kg of metal per vessel per day. The crystals depositing on the cathode walls were up to 60 mm

Card 3/7

Production of high-purity .

long. The operating parameters of the vessel did not change appreciably over working periods of up to three months. Ye. A. Kamenskaya is mentioned. There are 5 figures, 3 tables, and 17 references: 9 Soviet and 8 non-Soviet. The four references to English-language publications read as follows: The Metal Beryllium, ASEM, Cleveland, Ohio, 1955; P. Dereham, D. Temple. Extraction and Refining of the Rarer Metals. Lond. Inst. of Mining and Metallurgy, 1957; M. Kells et al. Second Geneva Conference on Peaceful Uses of Atomic Energy, 1958, Paper No. 717; Z. Williams, P. Eyre. Nucl. Energy, 3, no. 22 (1958).

SUBMITTED: December 15, 1960

Fig. 3. Industrial furnace for chlorination.

Legend: (1) Bunker; (2) throttle valve; (3) graphite lining; (4) thermocouples; (5) graphite heater; (6) furnace jacket; (7) diabase plate; (8) foam firebrick; (9) diabase cement; (10) Dinas brick; (11) quartz brick; (12) thermocouple; (13) contact; (14) clamp device; (15) quartz face; (16) briquette mass; (17) bar; (18) top heating; (19) cap with adopter

Card 4/7

SEMAKIN, V.P.

New forms within apple varieties. Priroda 49 no.10:87-89 O '60.
(MIRA 13:10)

1. Orlovskaya plodovo-yagodnaya opytnaya stantsiya.
(Apple--Varieties)

SEMAKIN, V. P., Cand Agric Sci (diss) -- "The approval of apple varieties in connection with variability in the tendency of the trees to lean". Michurinsk, 1959. 19 pp (Min Agric USSR, Furit and Vegetable Inst im I. V. Michurin), 100 copies (KL, No 10, 1960, 134)

LEBEDEV, Sergey Konstantinovich; ROMANOV, Yevgeniy Samoylovich; SEMAKOV, A.N., red.; KOZHUKHOVA, D.S., red.

[Economic efficiency of lumber hauling and loading equipment] Ekonomicheskaia effektivnost' oborudovaniia dlia trelevki i pogruzki lesa. Arkhangel'sk, Arkhangel'skoe knizhnoe izd-vo, 1959. 139 p. (MIRA 17:11)

MELEKHOV, Ivan Stepanovich, akademik; SEMAKOV, A.N., red.; BOL'SHAKOVA, L.A., tekhn. red.

[Improvement cuttings and forest regeneration in the North] Rubki i vozobnovlenie lesa na Severe. Arkhangel'sk, Arkhangel'skoe knizhnoe izd-vo, 1960. 198 p. (MIRA 14:7)

1. Vsesoyuznaya Akademiya sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Melekhov)
(Russia, Northern--Forests and forestry)

SANDROVSKIY, Ivan Grigor'yevich; KOBELIN, S.F., red.; SEMAKOV, A.N., red.; TIMASHEV, R.I., red.; FILIMONOVA, T.S., red.

[How we maintain mechanisms] Kak my obsluzhivaem mekhanizmy. Arkhangel'sk, Severo-Zapadnoe knizhnoe izd-vo, 1964. 30 p. (MIRA 18:1)

1. Brigadir-mekhanik lesopunkta Tarza Shalakushskogo lesopromyshlennogo khozyaystva (for Sandrovskiy).

24(3)
AUTHOR: Semakov, B. V.

SOV/20-128-4-19/65

TITLE: On the Appearance of Resonance Phenomena in a Paramagnetic Substance in Parallel Fields

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 4, pp 706-708 (USSR)

ABSTRACT: Up to now it was believed that the paramagnetic absorption has solely in perpendicular fields H_o and $H_1 \sin \omega t$ for $\vec{H}_o \perp \vec{H}_1$, $H_o \gg H_1$ a resonance character. This case was well investigated experimentally and theoretically. And it was believed that the absorption in parallel fields without a resonance maximum monotonously decreases with increasing field strength. But recently resonance maxima were experimentally observed in parallel fields $\vec{H}_o \parallel \vec{H}_1$ (K. Gorter, Ref 1, P. G. Tishkov, Ref 2), among others also at the frequencies $\omega \sim 10^{10}$ cycles. The author examined the possibility of the occurrence of such maxima in an isolated spin-system due to the dipole interaction between the spins. This problem of

Card 1/5

quantum physics can be accurately solved for two interacting spins S = 1/2 which are arranged on the x-axis of the field H_o which is parallel to the z-axis. The following is valid:

$$a = \frac{2\mu H_o + \sqrt{9\mu^4/r^6 + 4\mu^2 H_o^2}}{3\mu^2/r^3}$$

φ_k^1 and φ_k^2 are the eigenfunctions of $\hat{\sigma}_{kz}$. The solution is the following:

$$E_1 = \frac{\mu^2}{r^3} + \sqrt{9\frac{\mu^4}{r^6} + 4\mu^2 H_o^2} \qquad \Psi_1 = \frac{1}{\sqrt{a^2+1}}(\varphi_1^1\varphi_2^1 - a\varphi_1^2\varphi_2^2)$$

$$E_2 = 0 \qquad \Psi_2 = \frac{1}{\sqrt{2}}(\varphi_1^1\varphi_2^2 - \varphi_1^2\varphi_2^1)$$

$$E_3 = -2\frac{\mu^2}{r^3} \qquad \Psi_3 = \frac{1}{\sqrt{2}}(\varphi_1^1\varphi_2^2 - \varphi_1^2\varphi_2^1)$$

$$E_4 = \frac{\mu^2}{r^3} - \sqrt{9\frac{\mu^4}{r^6} + 4\mu^2 H_o^2} \qquad \Psi_4 = \frac{1}{\sqrt{a^2+1}}(a\varphi_1^1\varphi_2^1 + \varphi_2^2\varphi_1^2)$$

The disturbance $-\hat{M}_z H_1 \sin \omega t$ with $\vec{H}_1 \parallel H_o$ can only cause transitions between the upper and lower state with $\omega_{res} = \frac{2}{\hbar}\sqrt{9\frac{\mu^4}{r^6} + 4\mu^2 H_o^2} \sim 4\mu H_o/\hbar$ at $\mu^2/r^3 \ll \mu H_o$. The corresponding probability is proportional to the square of the matrix-element. For $\vec{H}_1 \perp \vec{H}_o$, $\omega_{res} = 2\mu H_o/\hbar$ with $(\hat{M}_x)_{12} = \mu H_1$ is valid in this case. The resonance effect has to be of noticeable intensity especially in complexes with magnetic ions closely arranged together. In a simple cube lattice in a strong magnetic field H_o the C_N^m-fold degenerated Zeeman-level is split up μ-fold because of the weak dipole interaction between the nearest spins $-H_o(N - 2m)$, and the wave functions of the first approximation mix up with the wave functions of the Zeeman-level. The interaction

$$\hat{U} = \frac{\mu^2}{r^3} \sum_{k=1}^{N-1} \left\{ \hat{\vec{\sigma}}_k \hat{\vec{\sigma}}_{k+1} - 3\hat{\sigma}_{kz}\hat{\sigma}_{k+1z} + \hat{\vec{\sigma}}_k \hat{\vec{\sigma}}_{k+q} - 3\hat{\sigma}_{kx}\hat{\sigma}_{k+qx} + \right.$$

$$\left. + \hat{\vec{\sigma}}_k \hat{\vec{\sigma}}_{k+q^2} - 3\hat{\sigma}_{ky}\hat{\sigma}_{k+q^2y} \right\}$$ (q = number of spins in the cubic lattice) either turns two spins or none. Therefore, the matrix-element of the radio frequency field $\vec{H}_1 \parallel \vec{H}_o$ will be different from zero solely for the transitions with $\omega_{res} = 4\mu H_o/\hbar$. If an orbital angular momentum participates in the paramagnetism the resonance frequency will shift somewhat. $\langle \hat{\mathcal{H}}_o \rangle = \langle - H_o \hat{M}_z + \hat{U} \rangle$ is calculated by the density-matrix method with an accuracy to the second order concerning H_1. Several (rather long) expressions and equations are derived and explicitly written down. Finally a value of the mean energy is obtained which oscillates about an equilibrium value with progressing time. Thus the mechanical problem is solved. Finally the formula for the resonance-maxima is

given. The theory discussed in this paper is in qualitative accordance with the experiment. There are 4 Soviet references.

ASSOCIATION: Permskiy gosudarstvennyy universitet im. A. M. Gor'kogo (Perm' State University imeni A. M. Gor'kiy)

PRESENTED: May 25, 1959, by M. A. Leontovich, Academician

SUBMITTED: April 16, 1959

S/058/61/000/010/039/100
A001/A101

24,7900

AUTHOR: Semakov, B.V.

TITLE: On possibility of resonance phenomena in parallel fields

PERIODICAL: Referativnyy zhurnal. Fizika, no.10, 1961, 160, abstract 10V333 (V sb. "Paramagnitn. rezonans", Kazan', Kazansk. un-t, 1960, 99-100)

TEXT: The behavior of the spin system of s paramagnetic in parallel fields is theoretically investigated. The spectrum of the system Hamiltonian is found for the case of the system consisting of a small number of spins, without an assumption of the weakness of dipole interaction. It is established that there exists resonance absorption at a frequency of $\sim 10^{10}$ cps due to dipole interaction of the spins. The results obtained agree satisfactorily with experimental data (RZhFiz, 1958, no. 3, 6170).

[Abstracter's note: Complete translation]

Card 1/1

SEMENOV, A.

Sviaz' v novoi stalinskoi piatiletke. V IAroslavskoi oblasti zavershena sploshnaia telefonizatsiia sel'skikh sovetov. /The communication system in the new Stalin five-year plan. The telephone system of rural soviets is completed in the Yaroslav Province/. (Vestnik sviazi. Pochta. 1947, no. 4, p. 3-4).
DLC: HE7.V64

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

KARASEV, V.A.; SEMAKOV, G.I.

Use of containers for transporting mail on railroad cars.
Vest. sviazi 21 no.9:26-27 S '61. (MIRA 14:9)

1. Zamestitel' nachal'nika Ivanovskogo oblastnogo upravleniya svyazi (for Karasev). 2. Nachal'nik otdeleniya perevozki pochty na Yaroslavskom vokzale Moskvy (for Semakov).
(Postal service)

SEMAKOV, K.M., assistent

Treating atonic hemorrhage in the postnatal period by a tight tamponade of the uterus and vagina. Kaz. med. zhur. no.4:45-47 Jl-Ag '61. (MIRA 15:2)

1. Filial (Ordzhonikidzevskiy rodil'nyy dom - glavnyy vrach M.S. Balaganova) akushersko-ginekologicheskoy kliniki (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent V.I.Davydov) Sverdlovskogo meditsinskogo instituta.
(HEMORRHAGE, UTERINE)

SEMAKOV, V.G.

Biochemical differences of bull semen and their relation to the breed of the animal and the quality of semen. Biokhimiia 25 no.4: 679-683 Jl-Ag '60. (MIRA 13:11)

1. Department of Reproduction and Artificial Insemination, the Union Research Institute of Animal Husbandry, Moscow.
(SEMEN) (BULLS)

SEMAKOV, V.G.

Effect of the dehydrogenase and cytochrome oxidase enzyme systems on the vitality of spermatozoids. Biokhimiia 26 no.4:630-634 Jl-Ag '61. (MIRA 15:6)

1. Department of Biology of Reproduction and Artificial Insemination, Research Institute of Animal Husbandry, Moscow.
(SPERMATOZOA) (DEHYDROGENASE) (CYTOCHROME)

SEMAKOV, V. G.

"Some reduction-oxidative enzymes in bull semen."

report submitted for 5th Intl Cong, Animal Reproduction & Artificial Insemination, Trent, Italy, 6-13 Sep 64.

SEMAKOV, V.G.; SOKOLOVSKAYA, I.I.

Effect of some estrogens and progesterone on the tubal secretion in female rabbits. Probl. endok. i gorm. 11 no.5:108-112 S-O '65. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhivotnovodstva poselka Dubrovitsy Moskovskoy oblasti. Submitted June 25, 1964.

SEMAKOV, V.V., mladshiy nauchnyy sotrudnik; PASHINYAN, R.A.

Readers' letters. Zashch. rast. ot vred. i bol. 8 no.8:16 Ag '63. (MIRA 16:10)

1. Kamchatskaya sel'skokhozyaystvennaya opytnaya stantsiya (for Semakov). 2. Mezhrayonnyy karantinnyy inspektor, Kirovakan, Armyanskoy SSR (for Pashinyan).

Z

SEMAKOV, V.V., nauchnyy sotrudnik

Traps for day insects. Zashch. rast. ot vred. i bol. 7 no.12:44 D '62. (MIRA 16:7)

1. Kamchatskaya sel'skokhozyaystvennaya opytnaya stantsiya, poselok Sosnovka, Yelizovskogo rayona.
(Insect traps)

KOROBITSIN, V.G., nauchnyy sotrudnik; ARAKELYAN, A.O., kand. sel'skokhoz. nauk; NIKOLAYEV, G.V., student; SEMAKOV, V.V., nauchnyy sotrudnik; YEPANESHENKOV, I.B., entomolog

Brief information. Zashch. rast. ot vred. i bol. 9 no.8: 46-49 '64. (MIRA 17:12)

1. Nikitskiy botanicheskiy sad (for Korobitsin). 2. Institut vinogradarstva, vinodeliya i plodovodstva, Yerevan (for Arakelyan). 3. Kazakhskiy universitet, Alma-Ata (for Nikolayev). 4. Kamchatskaya sel'skokhozyaystvennaya opytnaya stantsiya (for Semakov).

L 33744-66 EWT(d)/EWT(l)/T/EWP(l) IJP(c) BB/TG/GG/GD/JXT(BF)
ACC NR: AT6008564 SOURCE CODE: UR/0000/65/000/000/0137/0143

AUTHOR: Semakov, V. V.

ORG: none

TITLE: Reliability evaluation method for the automatic reading of printed symbols

SOURCE: AN SSSR. Institut nauchnoy informatsii. Chitayushchiye ustroystva. (Reading devices). Moscow, VINITI, 1965, 137-143

TOPIC TAGS: pattern recognition, character reading equipment, reading machine

ABSTRACT: A method for estimating the reliability of printed symbol identification is described. The method, consisting of three steps, compares the characteristics of the input text to the stored standard symbols. This method is developed for a reading system entailing a count of the highest number of color coincidences of standard elements (symbols). The method has been tested experimentally where symbols were displayed in 30 to 40 variants and the probability of black color occurence in vertical and horizontal scans was measured. The resulting error was 0.1%. The method can be used to estimate the reliability characteristics of reading devices employing a correlation method of recognition. Orig. art. has: 4 tables, 10 formulas, 1 figure.

SUB CODE: 09/ SUBM DATE: 09Sep65

Card 1/1 BLG

URAZG[illegible], A.[illegible]; PRO[illegible], S.N.; SOSIPATROV, V.T.; SEMAKOVA, I.S.;
[illegible], G.A.; RAKEVICH, [illegible]

Behavior of gases in the crystallization process of rimmed steel ingots. Izv.vys.ucheb.zav.; chern.met. 8 no.5:44-49 '65.
(MIRA 18:8)

1. Leningradskiy politekhnicheskiy institut.

SOKOLOVA, A.A.; NAZAR'YEVA, Ye.V.; SEMAKOVA, L.A.

Study of lignin with the aid of chromatography. Zhur.prikl.khim. 34 no.9:2084-2095 S '61. (MIRA 14:9)

1. Institut lesa i lesokhimii AN SSSR.
(Lignin)

SEMAKOVA, N.

Participants of the survey exchange experience. Okhr. truda i sots. strakh. 4 no.3:26 Mr '61. (MIRA 14:3)

1. Zaveduyushchaya otdelom sotsial'nogo strakhovaniya Chelyabinskogo oblsovprofa.
(Chelyabinsk Province—Sanatoriums)

SEMAN, E.O.

Intraspecific characteristics of the entomopathogenic fungus Beauveria bassiana (Bals.) Vuill. Bot.zhur. 49 no.10:1473-1477 O '64.
(MIRA 18:1)

1. Vsesoyuznyy institut zashchity rasteniy, Leningrad.

SEMAN, O. I. PA 12T98

USSR/Lenses, Electromagnetic Mar 1946
Optics, Electronic

"Aberration and Resolving Power of a 'Spherical' Electron Lens," O. I. Seman, 18 pp

"Zhur Tekh Fiz" Vol XVI, No 3

Movement of an electron in the radial field of the apparatus. Distribution of intensity in cold emission. Solving the problem of power in cold emission. Distribution of intensity and solution of the problem of power in thermoelectronic emission. Observations on the connection with experimental data.

12T98

A 53

537.533.72 : 621.385.833

5456. Optical power of short electron lenses. O. I. Seman. *J. Tech. Phys., USSR*, **20**, 1180–93 (Oct., 1950) *In Russian.*

It is shown that Bruche and Scherzer's well-known approximation formula for focal length f: $0{\cdot}125\,\phi_0^{-1/2}\int \phi'^2 \phi^{-3/2}\,dz$, where $\phi(z)$ is the electric field potential along axis z and $\phi' = d\phi/dz$, can lead to a 100% error in the case of short lenses. Corrected formulae are derived which are accurate within 5–15% in all cases for electrostatic and magnetic lenses, and contain a new constant $R = r\phi'$. It is shown that the assumption R = const. instead of the usual r = const. is particularly useful for short, single symmetrical electron lenses, and that $\Delta f/f$ and relative radial displacement $\Delta r/r$ of the electron beam in a short magnetic lens are always below less the known f/f.

A. [illegible]

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SEMAN, O. I.

USSR/Physics - Electron Optics 11 Dec 51

"The Reduced Form of the Fourth-Order Iconal and of Aberration Coefficients in Electron Optics," O. I. Seman

"Dok Ak Nauk SSSR" Vol LXXXI, No 5, pp 775-778

Considers a static elec and magnetic field without free vol charges which possesses symmetry of rotation, and the point 4th-order iconal (eikonal) E_{p4} for detg the 3rd-order aberration. Cf. H. Motz and L. Klanfer, Proc Phys Soc, 58, 30, 1946. Submitted by Acad A. A. Lebedev 2 Nov 51.

210T95

SEMAN, O. I. PA 236T90

USSR/Physics - Electron Optics Oct 52

"Aberrations of Electron Optical Systems With Surface Charges in the Optically Acting Part of the Field," O. I. Seman

"Zhur Tekh Fiz" Vol 22, No 10, pp 1581-1591

Considers axisymmetrical systems whose spatial charge is concentrated on surfaces of revolution realized in the form of special electrodes (given the general name of "grid"). Develops the theory of aberrations of systems with ideal grids. Derives formulas of correction for the coeffs of third-order aberrations, and also formulas of "grid" aberrations.

236T90

Seman, O. I.

USSR.

537.533.3

1887. On the existence of an extremum of the coefficient of spherical aberration for axially symmetric systems in electron optics. O. I. SEMAN. *Zh. eksper. teor. Fiz.*, 24, No. 5, 581-8 (1953) In Russian.

62

The question of the existence of an extremum is treated as a variational problem and the corresponding Euler equations are set up, the electrostatic and magnetic fields being taken as variable but other conditions (e.g. potentials and fields at object and image, magnification, separation of principal planes) fixed. It is shown that there cannot be real focusing if the spherical aberration is an extremum, assuming there to be no space charge. The author draws attention, however, to some doubt in the case where the magnetic field is given and an extremal electrostatic field sought. When there is no extremum there is still a lower bound to the spherical aberration, but if there is no restriction on the fields this bound is zero [Rebsch (1938)]. The problem of finding limiting values of the aberration for realizable fields has not yet been solved.

J. C. E. JENNINGS

SEMAN O.I.

USSR

537.533.3

4587. Limits to aberration coefficients in electron optics. O. I. SEMAN. *Dokl. Akad. Nauk SSSR*, 93, No. 3, [illegible] 1953. In Russian.

The coefficients are those of the primary aberrations of axially symmetric, static fields free from space charge. The limits are imposed by the condition that the fields are Laplacian and are obtained by consideration of the reduced eikonal [see *Abstr.* 8242 (1952)]. In addition to the well-known limitations, such as that on spherical aberration, limits have been found for the astigmatism and for the Petzval curvature. Numerical values are given, for electric and magnetic fields, of the constants which, together with values at object and image of the electric potential and field and of the height and slope of a paraxial ray, determine the lower limit of the curvature of the appropriate image surface.

J. C. E. JENNINGS

SEMAN, O. I.

USSR/Physics - Optics - Aberration

Card : 1/1

Authors : Seman, O. I.

Title : Relativistic aberration functions and normal coefficients of electron-optical aberrations

Periodical : Dokl. AN SSSR, 96, Ed. 6, 1151 - 1154, June 1954

Abstract : Relativistic coefficients are distinguished from ordinary, normal aberration coefficients by relativistic multipliers, presence of a relativistic V_r instead of V and solutions of the relativistic paraxial equation. Relativistic coefficients at small energies transform into ordinary coefficients and the determination of aberration at greater energies presents no considerable difficulties in comparison with the numerical calculation in accordance with non-relativistic formulas. One reference.

Institution : The S. I. Vavilov State Optical Institute

Presented by : Academician A. A. Lebedev, March 15, 1954

AUTHOR: Sëman, O.I. 109-3-2-19/26

TITLE: The Normal Coefficients of Electron Optical Aberration in Magneto-immersion Systems (O normal'nykh koeffitsiyentakh elektronnoopticheskikh aberratsiy magnito-immersionnykh sistem)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.III, No.2, pp. 283 - 287 (USSR).

ABSTRACT: First, a simple system with a homogeneous magnetic field having an intensity H is considered. It is shown that in the absence of a special diaphragm, the aberration coefficients can be expressed by Eqs.(1) (see Refs. 1, 2 and 10). The paraxial equation is in the form:

$$r'' + \chi'^2 r = 0$$

and has partial solutions:

$$\chi' r_\alpha = \sin \chi' z$$

and:

$$r_\beta = \cos \chi' z \quad ,$$

while the length of the lens is given by:

Cardl/2

The Normal Coefficients of Electron Optical Aberration in Magneto-immersion Systems

$$L = \frac{\Pi}{\chi'} \quad .$$

Eqs.(1) show that some of the coefficients of the field aberrations are different from zero, e.g. all the coma "isotropic" and "anisotropic" coefficients of the distortions are different from zero. On the other hand, it is shown that in the systems fitted with an aperture diaphragm, the aberration coefficients are expressed by Eqs.(11), which are linearly related to the normal aberration coefficients (see Eqs.(1)). The properties of the coefficients are discussed in some detail. The author expresses his gratitude to Simen Tiy-ye for valuable advice and his help in the preparation of the manuscript. There are 13 references, 9 of which are Russian, 2 English and 2 German.

SUBMITTED: October 22, 1956

AVAILABLE: Library of Congress

Card 2/2 1. Electron optics-Abberation-Analysis

SOV-109-3-6-22/27

AUTHOR: Seman, O. I.

TITLE: Simulation of the Electron-Optical Trajectories of Charged Particles in Axially Symmetrical Fields (O modelirovanii v elektronnoy optike trayektoriy elektrizovannykh chastits v polyakh s simmetriyey vrashcheniya)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 6, pp 845-847 (USSR)

ABSTRACT: The motion of a charged particle in axially symmetrical electric and magnetic fields can be described by the Hamilton equations:

$$\frac{d^2r}{d\tau^2} = \frac{\partial\phi}{\partial r} \quad ; \quad \frac{d^2z}{d\tau^2} = \frac{\partial\phi}{\partial z} \qquad (1)$$

where r and z are the cylindrical coordinates of the moving particle, τ is the Eigen-time of the particle and ϕ is a function of the electric and magnetic fields which can be expressed by Eq.(2). From Eqs.(1), (2), (5) and (6) it follows that the trajectory of the particle can be described

Card 1/2

Simulation of the Electron-Optical Trajectories of Charged Particles in Axially Symmetrical Fields

by Eq.(7). It is found that this equation is similar to that representing the trajectory of a non-relativistic particle such as Eqs.(8a) and (8b) or the vectorial relativistic equation as expressed by Eq.(9). From the above it is concluded that the trajectory of the particle can be evaluated by using a rubber-membrane model. The paper contains 4 Soviet and 1 English references.

SUBMITTED: February 14, 1957.

1. Particles - Determination 2. Particles - Trajectories
3. Magnetic field - Applications

9.3140

68194
SOV/58-59-5-11027

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 160 (USSR)

AUTHOR: Seman, O.I.

TITLE: On the Theory of Virtual and Transverse Aberrations in Electron Optics

PERIODICAL: Uch. zap. Rostovsk.-n/D. un-ta, 1958, Vol 68, Nr 8, pp 63 - 75

ABSTRACT: The author derives the fundamental vector equation for transverse aberration. He investigates a combined electrostatic and magnetic field with rotational symmetry. He points out the connection between the various methods of calculating aberrations, and the possibility of passing from one method to the other at any intermediate stage of the investigation or calculation in accordance with the nature of the problem. The proposed formulae allow the aberrations to be studied in an arbitrary plane and not only in the Gaussian image plane as is usually the case. The study of aberrations in any plane can be important in determining the form of the caustic, crossover width, and optimum plane of the position of the screen, as well as in a special use of out-of-focus and extra-Gaussian fuzzy images. In these formulae arbitrary parameters can be used which define the trajectory

Card 1/2

On the Theory of Virtual and Transverse Aberrations in Electron Optics

in a single-valued manner (e.g., the position and direction vector in the plane of the object, or the position vectors in the planes of the object and diaphragm). The author derives formulae for virtual aberrations. He suggests that the field reflects a transverse aberration from one boundary plane to another without new aberrations being accumulated, but transferred aberrations are distorted by the field of the system and become distributed along the trajectory. He examines the particular case where the field is broken and "rectilinear" transfer ensues (i.e., transfer by rectilinear trajectories). This occurs if the lens contains a network beyond which the field is absent. The author notes that the method of virtual aberrations is very convenient in determining those errors in calculating the image which are introduced by random errors incident to finding the trajectory. These errors can be treated as virtual aberrations transported by Gaussian optics. The bibliography contains 10 titles.

S.

Card 2/2

9.3140

68195
SOV/58-59-5-11028

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 160 (USSR)

AUTHOR: Seman, O.I.

TITLE: On the Theory of the Point Eikonal of the Fourth Order in Electron Optics

PERIODICAL: Uch. zap. Rostovsk.-n/D. un-ta, 1958, Vol 68, Nr 8, pp 77 - 90

ABSTRACT: The author briefly sketches the development of electron optics. He points out the importance of the theory of aberrations and the role of the eikonal method in this theory. The coefficients of frequency aberrations are directly connected with (sometimes even downright equal to) the expansion coefficients of the point eikonal. In the present study the author derives a general eikonal formula from which the already well-known formulae for aberration coefficients, as well as a number of new formulae, can be obtained as particular cases. Some motion integrals are used as the basis of classification of aberrations. The point eikonal of the fourth order, which allows the transverse aberration of the third order to be determined, is considered to be a functional of the electric and magnetic field

Card 1/2

68195
SOV/58-59-5-11028

On the Theory of the Point Eikonal of the Fourth Order in Electron Optics

distribution along the system's axis of symmetry. It depends on two vector parameters (or four scalar ones) which define the trajectory, as well as on the initial electron energy. The isotropic and anisotropic parts of the eikonal are investigated separately. The author finds a set of independent transformations of the eikonal which do not contain derivatives of the axial distribution of electric potential higher than those of the fourth order; nor derivatives of the magnetic field intensity higher than those of the second order; nor derivatives of the Gaussian trajectory point coordinates higher than those of the first order. Besides, he finds transformations which do not lead to singularities in the subintegral functions on the axis of the system, or to substantial complications in the mode of representing the eikonal. Seventeen arbitrary parameters enter into the final expression, of which 14 pertain to the isotropic and 3 to the anisotropic parts of the eikonal. The derived formulae can be used for the systematic calculation of aberrations of axially symmetric systems, for the determination of optical properties from experimental field-measurement data, and for the investigation of individual aberrations.

S.

Card 2/2

AUTHOR: Seman, O.I. SOV/109-4-7-23/25

TITLE: Dependence of the Anisotropic Image Distortions on the Curvature of the Vision Field in Electron Optics

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 7, pp 1213 - 1214 (USSR)

ABSTRACT: It is shown that if the surface of the object is non-planar and has a curvature $1/\rho \neq 0$ and is situated in a magnetic field $N \neq 0$, the system is subject not only to isotropic aberrations (V. Glazer - Ref 1 and W. Rogowski - Ref 2) but requires the introduction of a correction for anisotropic distortions. The corrections to the normal coefficients are expressed by Eqs (7), where the first formula represents the correction to the anisotropic distortion coefficient. There are 5 references, 4 of which are Soviet and 1 German; 1 of the Soviet references is translated from English.

SUBMITTED: May 8, 1958

Card 1/1

24(3) SOV/51-7-1-17/27

AUTHOR: Seman, O.I.

TITLE: On a Certain Property of the Image Curvature in Short Electron-Optical Lenses (Ob odnom svoystve krivizny izobrazheniya v korotkikh linzakh elektronnoy optiki)

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 1, pp 113-115 (USSR)

ABSTRACT: The author shows that the meridional curvature of the image formed by "short" electron-optical lenses cannot be corrected at magnifications greater than $\sqrt{V_a/V_b}$, with a diaphragm between the second focus object, and at magnifications smaller than $\sqrt{V_a/V_b}$, with a diaphragm between the second focus and the image.
[Note. V_a and V_b are probably defined in earlier work (Refs 3-6). The paper is entirely theoretical.] There are 6 references, 4 of which are Soviet, 1 German and 1 English.

SUBMITTED: May 9, 1958

Card 1/1

S/058/61/000/012/078/083
A058/A101

AUTHOR: Seman, O. I.

TITLE: Concerning some properties of the curvature of electron-optical images in magnetic fields

PERIODICAL: Referativnyy zhurnal, Fizika, no. 12, 1961, 408, abstract 12Zh34 (Tr. in-ta fiz. i astron. AN EstSSR, 1961, no. 13, 20 - 37, Eng. summary)

TEXT: There were derived special formulae for the coefficient of image curvature that are convenient for calculations based on experimental data. There were established limitations of curvature which are analyzed in detail for the meridional surface of images.

[Abstracter's note: Complete translation]

Card 1/1

L 00739-66 EWT(m)/EPF(c)/T BW/DJ

ACCESSION NR: AP5021989 UR/0286/65/000/014/0064/0064
621.892.09

AUTHOR: Cheremukhin, I. K.; Semanov, N. G.; Frenkel', A. L.; Grankina, L. G.; Dyrova, V. I.

TITLE: Hydraulic brake fluid. Class 23, No. 172944

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 64

TOPIC TAGS: brake fluid, anticorrosion additive, antifreeze

ABSTRACT: This Author's Certificate introduces a hydraulic brake fluid based on xylithane, methanol fraction, anticorrosion additives and thickening agents. The fluid is made more resistant to freezing, the rate of corrosion in the sleeves is reduced and a wider selection of raw materials is provided by adding 300 wt. % furfural to a 1:1 mixture of xylithane and methanol fraction.

ASSOCIATION: none
SUBMITTED: 12Jul62 ENCL: 00 SUB CODE: FP
NO REF SOV: 000 OTHER: 000

Card 1/1

HEFTMAN, Irena; PARSZEWSKI, Mieczyslaw; SEMANYCZ, Jerzy

Clinical observations on sudden cardiac arrest and on the restoration of cardiac activity. Roczn. pom. akad. med. Swierczewski 9:233-243 '63.

1. Z II Kliniki Chirurgicznej Pomorskiej Akademii Medycznej Kierownik: prof. dr Wladyslaw Rafal Heftman.
(HEART ARREST) (RESUSCITATION)
(HEART MASSAGE)

[redacted], Z.

Sur les ensembles clairsemes. Warszawa, Panstwowe Wydawn. Naukowe, 1959 [illegible] p.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 2, Feb. 1960

Uncl.

SEMANOV, I. (g.Leningrad); PERMYAKOV, O. (g.Minsk); DOMCHENKO, N. (g.Reutovo)

Readers about the "Highway atlas of the U.S.S.R." Za rul. 18 no.5:31 My '60. (MIRA 14:3)
(Road maps)

SEMANOV, N.A., kand.tekhn.nauk

Allowable hydrodynamic force acting on a ship in sluices. Proizv.-tekh. sbor. no.2:38-50 '59. (MIRA 13:10)

1. Leningradskiy institut vodnogo transporta.
(Ships--Hydrodynamics) (Sluices)

SEMANOV, N.A., kand.tekhn.nauk, dotsent

Approaches to and separators between locks when axes of the channels or locks are not parallel. Trudy LIIVT no.26:143-150 '59. (MIRA 14:9)

(Locks (Hydraulic engineering)

SEMANOV, V. I.

Dissertation defended for the degree of Candidate of Philological Sciences at the Institute of the Peoples of Asia

"Chinese Literature of the XIX-Beginning of XX Centuries and Lu Hsin."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

MROZOWSKI, D.; SEMANYCZ, J.; BOGUNOWICZ, A.

Effect of the type of anesthesia and of the bacterial flora of the respiratory tract on the frequency of postoperative pulmonary complications. Roczn. pom. akad. med. Swierczewski. 8:339-350 '62.

1. Z II Kliniki Chirurgicznej Pomorskiej Akademii Medycznej Kierownik: prof. dr med. W.R. Heftman i z Zakladu Mikrobiologii Pomorskiej Akademii Medycznej Kierownik: prof. dr med. W. Murczynska.

(SURGERY OPERATIVE) (LUNG DISEASES) (ANESTHESIA) (RESPIRATORY SYSTEM) (STREPTOCOCCUS) (STAPHYLOCOCCUS)

SEMAR, Gennadiy, student

Spare time. Zdorov'e 3 no.1:12 Ja '57. (MLRA 10:2)

1. Moskovskiy Gosudarstvennyy universitet.
(STUDENTS--RECREATION)

GLEBOVICH, Aleksandr Aleksandrovich, kand. tekhn. nauk, dots.; KASATKIN, A.S., prof., nauchn. red.; SEMAR, V.Yu., red.; DERGAGINA, S.I., red.

[Laboratory work in electrical engineering and the principles of industrial electronics] Laboratornye raboty po elektrotekhnike s osnovami promyshlennoi elektroniki. Moskva, Vysshaia shkola, 1964. 185 p. (MIRA 17:6)

1. Zaveduyushchiy kafedroy elektrotekhniki Vsesoyuznogo sel'skokhozyaystvennogo instituta zaochnogo obucheniya (for Glebovich).

SEMASH, D.

Some pecuiarities of soil moisture utilization in orchards of the southern Ukraine. Dokl. Akad. sel'khoz. 23 no.1:29-33 '58.
(MIRA 11:5)

1.Melitopol'skaya opytnaya stantsiya sadovodstva.
(Soil moisture) (Fruit culture)

SEMASH, D. P.

Cand Agr Sci - (diss) "Growth and harvestibility of the apple tree under various irrigation conditions." Kiev, 1961. 20 pp; (Ministry of Agriculture Ukrainian SSR, Ukr Academy of Agr Sci); 150 copies; price not given; list of author's works on p 20 (10 entries); (KL, 10-61 sup, 222)

LUBYANSKAYA, M.G.; SEMASHEV, R.T.; SEPETAYA, A.N.

Hydrogeological conditions of the producing strata of the Maryn monocline. Neftegaz.geol. i geofiz. no.8:35-39 '64. (MIRA 17:9)

1. Srednaaziatskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta prirodnogo gaza.

SEMASHEVA, I.N.; SOFIYEV, I.S.

Sorptional ash of coal. Dokl. AN SSSR 142 no.3:683-686 Ja '62.
(MIRA 15:1)

1. Institut khimii AN UzSSR. Predstavleno akademikom N.M.Strakhovym.
(Angren region--Coal--Analysis)

SEMASHEVA, I.N.; SOFIYEV, I.S.

Studies of the fusinous components of coal and the nature of so-called "sclerotinite". Uzb. khim. zhur. 7 no.3:16-21 '63. (MIRA 16:9)

1. Institut khimii AN UzSSR.

SEMASHEVA, I.N.; SOFIYEV, I.S.

Fusainous components of coal and the nature of so-called sclerotinite. Report No.2. Uzb. khim. zhur. 7 no.4:23-31 '63. (MIRA 16:10)

1. Institut khimii AN UzSSR.

SEMASHEVA, I.N.; SOFIYEV, I.S.

Process of fusinization. Dokl. AN SSSR 152 no.1:194-197 S '63. (MIRA 16:9)

1. Institut khimii AN UzSSR. Predstavleno akademikom N.M. Strakhovym.

(Angren Basin--Fusinite)

SOFIYEV, I.S.; GORLENKO, I.A.; SEMASHEVA, I.N.

Some facts pertaining to the effect of the deposition medium on the properties of the organic components of coal. Dokl. AN SSSR 152 no.2:438-440 S '63. (MIRA 16:11)

1. Institut khimii AN UzSSR. Predstavleno akademikom N.M. Strakhovym.

IMNEVICH, N.P.; GOL'DENBERG, G.O.; BATALOV, V.S.; SEMASHIN, G.K.

Organizing concreting operations at the construction sites of ferrous metallurgy. Prom. stroi. 42 no.4:11-13 '65. (MIRA 18:4)

1. Trest "Magnitostroy" (for Imnevich, Gol'denberg). 2. Magnitogorskiy gornometallurgicheskiy institut (for Batalov, Semashin).

MANDEL', R.B.; LERMAN, M.D.; SEMASHIN, V.V.

"Encasing method for the finishing of panel furniture with polyester varnishes. Lakokras. mat. i ikh prim. no.4: 46-47 '63. (MIRA 16:10)

L 43075-66
ACC NR: AP6015399 (N) SOURCE CODE: UR/0375/65/000/012/0036/0037

AUTHOR: Semashkevich, F. B. (Captain)

ORG: none

TITLE: Planning of combat training on a submarine

SOURCE: Morskoy sbornik, no. 12, 1965, 36-37

TOPIC TAGS: submarine, naval training, military personnel

ABSTRACT: The author criticizes the existing practice of daily operations and training programs on submarines and suggests the institution of annual, monthly, and weekly programs as well. The operations and training program includes inspection of the vessel, a check on course plotting, inspection of emergency-rescue equipment, diaster drills, preventive maintenance work, etc. The author opposes the existing program whereby a submarine, upon leaving its base, must operate on an hour-to-hour basis according to a fixed schedule, on the grounds that it hampers the initiative of the individual submarine commander. In conclusion, the author proposes that the decision as to *when* a given exercise or operation is to be carried out be left to the discretion of the individual commander. Orig. art. has: 2 tables.

SUB CODE: 05,15,13/ SUBM DATE: none/ ORIG REF: 001

Card 1/1

SEMASHKEVICH, F.B., kapitan 2-go ranga

Training an executive officer (assistant commanding officer).
Mor. sbor. 47 no.10:54-58 O '64. (MIRA 18:11)

L 00730-67 EWT(m)
ACC NR: AP7002369 SOURCE CODE: PO/0046/66/011/006/0421/0427

AUTHOR: Oglana, Jan--Oglana, Ya.; Siemaszko, Aleksander--Semashko, A.

ORG: Department of Nuclear Chemical Engineering, Institute of Nucelear Research, Warsaw-Zeran (Zaklad Chemicznej Inzynierii Jadrowej, Institut Bodan Jadrawych)

TITLE: Usability of foam extraction for the decontamination of water

SOURCE: Nukleonika, v. 11, no. 6, 1966, 421-427

TOPIC TAGS: nuclear decontamination agent, radioactive waste disposal

ABSTRACT: The effectiveness of removal of ^{89}Sr, ^{137}Cs, and ^{144}Ce from water by foam extraction using five different surface-active agents was examined. The optimal parameters of this process were established. The usability of this method for the preliminary decontamination of the low and middle level radioactive wastes was stated. The method is interesting for large volume of radioactive effluent; the volume of the foamate, after foam disintegration, was about 0.1 to 1.0% of the volume of the decontaminated water. Orig. art. has: 5 figures and 2 tables. [NA]

SUB CODE: 18 / SUBM DATE: 26Nov65 / ORIG REF: 001 / SOV REF: 001 / OTH REF: 004

Card 1/1

0925 0671

SEMASHKO, A.M.

Changes in the picture in poliomyelitis in Latvia. Zhur.mikrobiol. epid. i immun. 28 no.10:126-129 O '57. (MIRA 10:12)
(POLIOMYELITIS, epidemiology,
in Latvia (Rus))

DINETS, Ye. M.; SEMASHKO, A. P.

"Slow neutron scattering by the bonded hydrogen."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

SEMASHKO, A. S.

Epshteyn, F. G., Semashko, Z. A., Levinson, A. S. and others "Material for treating grippe infections", Voprosy med. virusologii, Issue 1, 1948, p. 209-18, - Bibliog: 6 items.

So: U-3042, 11 March 53, (Letopis 'zhurnal 'nykh Statey, No. 10, 1949).

SEMASHKO, B.A.; BODROV, N.N.; GRANOVSKAYA, I.Ye. redaktor; MEDRISH, D.M. tekhnicheskiy redaktor.

[Electric household appliances and refrigerators] Elektricheskie domashnie mashiny i kholodil'niki. Moskva, Gos.izd-vo torgovoi lit-ry, 1955. 102 p. (MLRA 8:10)
(Household appliances, Electric) (Refrigerators)

BARASHKOV, V.S.; BLOKHINTSEV, D.I.; MIKHUL, E.K.; PATERA, I.; SEMASHKO, G.L.; SARANTSEVA, V.R., tekhn. red.

[Polar theory of Λ -hyperon production in π N-interactions at high energies] Poliusnaia teoriia rozhdeniia Λ-giperonov v πN -vzaimodeistviiakh pri bol'shikh energiiakh. Dubna, Ob"edinennyi in-t iadernykh issledovanii, 1963. 16 p. (MIRA 16:6)

1. Institut atomnoy fiziki v Bukhareste (for Mikhul).
(Hyperons) (Mesons)

BARASHENKOV, V.S.; BLOKHINTSEV, D.I.; MIKHUL, E.K. [Mihul, E.]; PATERA, I.; SEMASHKO, G.L.

Pulsed spectrum of baryons in inelastic collisions of fast pions with nucleons. Zhur. eksp. i teor. fiz. 45 no.2:381-383 Ag '63. (MIRA 16:9)

1. Ob"yedinennyy institut yadernykh issledovaniy. 2. Sotrudnik Instituta yadernoy fiziki v Bukhareste (for Mikhul).
(Baryons) (Mesons) (Collisions (Nuclear physics))

ACCESSION NR: AP4031153 S/0056/64/046/004/1320/1330

AUTHORS: Kopy*lov, G. I.; Polubarinov, I. V.; Semashko, G. L.

TITLE: Estimate of the cross section for the photoproduction of vector boson pairs

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1320-1330

TOPIC TAGS: vector boson, intermediate vector boson, weak interaction, vector boson pair photoproduction, photoproduction in proton, photoproduction in nucleus, nonrelativistic limit, random star calculation, Monte Carlo calculation, Duffin Kemmer algebra

ABSTRACT: The cross section for the photoproduction of pairs of vector bosons with magnetic moment $\gamma = 1$ in nuclei and in protons is calculated in the Born approximation. This is the first published calculation pertaining to pair production in protons. The random star method is used and the calculations cover the entire range of

Card 1/3

ACCESSION NR: AP4031153

energies for which the existing approximate formulas are applicable (up to $q_0 \sim 100$ GeV). The region of applicability of the obtained nonrelativistic and existing ultrarelativistic formulas is determined. The calculations were made with an electronic computer directly from the Feynman diagrams, using a procedure developed by the authors and described elsewhere (preprint, OIYaI D-821, 1961). A formula $\sigma = \sigma_{nonrel.}(1 + \kappa\tau_3\sqrt{q_0})$ is proposed for estimating purposes at intermediate energies and is found to fit the calculated values quite well. The dependence of the cross section of pair production on the atomic number in the case of pair production on nuclei is also evaluated. "In conclusion we are grateful to Professor M. A. Markov for suggesting the problem and for interest in the work, to Om San Ha for great help in solving the problem, and to B. N. Valuyev, V. I. Ogievetskiy and M. I. Shirokov for useful discussions."
Orig. art. has: 5 figures, 49 formulas, and 1 table.

Card 2/3

ACCESSION NR: AP4031153

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 12Sep63	DATE ACQ: 07May64	ENCL: 00
SUB CODE: PH	NO REF SOV: 006	OTHER: 011

Card 3/3

AUTHORS: Samsonov, G. V., Dzeganovskiy, V. P., Semashko, I. A. 20-119-3-30/65

TITLE: Europium Hexaboride (Geksaborid yevropiya)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 3, pp. 506-507 (USSR)

ABSTRACT: The hexaborides of the rare earth MeB_6 are at present rather well investigated (ref 1). They are used in electronics because of their high thermo-emission characteristics. The boride mentioned in the title was, however, neither synthetized nor investigated. Pure europium oxide was produced by a hexaboride reduction:

$$Eu_2O_3 + 3B_4C = 2EuB_6 + 3CO.$$

The reaction took 2 hours in vacuum at 1650°C. The product a dark-grey powder, corresponded exactly to the formula at a C-content below 0,02 %. A radiographic structure investigation showed a cubic lattice with a lattice parameter of

$$a = 4,167 \pm 0,002 \text{ Å}.$$

Card 1/3

Figure 1 gives a line diagram of the radiograph in question, whereas table 1 comprises the corresponding numerical data. The radio density computed from the lattice period amounts to

$$4,99 \pm 0,01 \text{ g/cm}^3.$$

The obtained value of the lattice period confirms the assumption (ref 2) concerning the agreement between the variation curves of the atom radius of the rare earths and the lattice periods of the borides of these metals, as well as the final conclusions on the positive effective three valence of all elements of the rare earths in compounds, except europium and ytterbium which have a bi-valent character (figure 2). For the construction of the curve of lattice parameters beside EuB_6 also the period values of DyB_6, HoB_6 and LuB_6 (ref 3) were exploited. Here the value of the lattice parameters for erbium (ref 6) was assumed somewhat too low. The accordance to certain rules indicated here admits doubts concerning the correctness of the value in question for ytterbium hexaboride (ref 7),

since it is necessary to define it exactly. The same value is in the case of EuB_6 in strict agreement with the mentioned rules.
There are 2 figures, 1 table, and 8 references, 4 of which are Soviet

ASSOCIATION: Institute metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute of Metallic Ceramics and Special Alloys AS Ukrainian SSR)

PRESENTED: November 28, 1957, by I. I. Chernyayev, Member, Academy of Sciences USSR

SUBMITTED: November 20, 1957

SOV/70-4-1-21/26

AUTHORS: Samsonov, G.V., Dzeganovskiy, V.P. and Semashko, I.A.

TITLE: Europium Hexaboride (Geksaborid evropiya)

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 1, pp 119 - 120 (USSR)

ABSTRACT: EuB_6 has hitherto been unexamined. It was synthesised by the reaction $Eu_2O_3 + 3B_4C = 2EuB_6 + 3CO$ in vacuo at 1 650 °C over the course of two hours. X-ray powder photographs were taken of the product which contained less than 0.02% C and was dark grey. The unit cell is cubic with $a = 4.163 \pm 0.001$ kX and space group O_h^1, characteristic of all the hexaborides of the rare earths. The X-ray density is 4.99 ± 0.01 g/cm^3. The atomic radii of Eu and Yb are greater than those of the other rare earths and their unit cells are correspondingly greater (mostly about 4.14). The work function of EuB_6 (for an emission constant of $A = 1\,000 - 5\,000$ A/cm^2) was found to be 4.90 eV which is higher than that of any other rare-earth hexaboride. It indicates the maximum multiplicity and consequently the greatest binding of the electrons of Eu which has in the normal state 7 electrons

Card1/2

in the 4f-shell, without the presence of electrons in the 5d-shell; such a 5d-electron in Gd causes a sharp fall in the work function of its hexaboride by comparison with EuB_6 (φ_{GdB_6} = 2.06 eV). There are 2 figures and 11 references, 7 of which are Soviet, 1 international, 1 English, 1 German and 1 Scandinavian.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Metallo-ceramics and Special Alloys of the Ac.Sc., Ukrainian SSR)

SUBMITTED: August 22, 1958

SEMASHKO, L. L.

USSR/Biology - Zoology

Card 1/1 Pub. 22 - 45/47

Authors : Larionov, V. R., and Semashko, L. L.

Title : Squamose merganser in the USSR

Periodical : Dok. AN SSSR 101/6, 1141 - 1143, Apr. 21, 1955

Abstract : The characteristics of squamose hooded merganser birds (diving water fowl of the goose family) found in various points of Asiatic USSR are described. Three references: 1 English and 2 USSR (1864-1954). Illustrations.

Institution : The M. V. Lomonosov State University, Moscow

Presented by: Academician Ye. N. Pavlovskiy, January 24, 1955

FEDOROVA, N.I.; BEKTEMIROV, T.A.; TARASEVICH, I.V.; KERBABAYEV, E.B.; SEMASHKO, L.L.

Distribution of Q fever among cotton mill workers. Zhur.mikrobiol. epid. i immun. 27 no.11:27-30 N '56. (MLRA 10:1)

1. Iz Instituta epidemiologii i mikrobiologii imeni N.F.Gamalei AMN SSSR i Ashkhabadskogo instituta epidemiologii, mikrobiologii i gigiyeny
(Q FEVER, epidemiology,
in cotton workers (Rus))
(OCCUPATIONAL DISEASES,
Q fever in cotton workers (Rus))

SEMASHKO, L. L., CAND BIO SCI, "FIELD AND ~~HOUSE~~ Limestone SPARROWS IN TURKMENIA AS CONSUMERS AND CARRIERS OF ECTOPARASITES (PRE-~~DOMINANTLY MITES AND~~ primarily TICKS). ASHKHABAD, 1961. (ACAD SCI TUSSR. ASHKHABAD INST OF EPIDEMIOLOGY AND HYGIENE). (KL-DV, 11-61, 215).

SEMASHKO, L.L.; STEPANYAN, Ye.G.

Sparrows as possible reservoirs for the agents of intestinal infections in Turkmenistan. Zdrav. Turk. 5 no.3:10-12 My-Je '61. (MIRA 14:10)

1. Iz Ashkhabadskogo instituta epidemiologii i gigiyeny (dir. - dotsent Ye.S.Popova).
(TURKMENISTAN--SPARROWS) (BIRDS AS CARRIERS OF DISEASE)

SEMASHKO, L. L.

Field and house sparrows (Passer montanus pallius Lar. and Passer domesticus bactrianus Lar. et Kudasch) as tick vectors in Ashkabad. Report No.1. Zool.zhur. 38 no.9:1383-1387 S '59. (MIRA 13:1)

1. Ashkhabadskiy institut epidemiologii i gigiyeny.
(Ashkhabad--Sparrows as carriers of disease)
(Ticks)

SEMASHKO, L.L.

Field and house sparrows as carriers of ticks and mites in Turkmenistan. Report No.2. Zool.zhur. 40 no.7:1070-1078 Jl '61. (MIRA 14:7)

1. Institute of Epidemiology and Hygiene of Ashkhabad.
(Turkmenistan--Acarina) (Sparrows as carriers of disease)

POSPELOVA-SHTROM, M.V.; VASIL'YEVA, I.S.; SEMASHKO, L.L.

A new species of argasid ticks (subfamily Argasine, family Argasidae), Argas beklemischei n.sp. Med. paraz. i paraz. bol. 32 no.1:61-65 Ja-F'63. (MIRA 16:10)

1. Iz otdela entomologii (zav. - prof. V.N.Beklemishev [deceased]) Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Ye.I.Martsinovskogo (dir. - prof. P.G. Sergiyev) Ministerstva zdravookhraneniya SSSR i iz Instituta epidemiologii i gigiyeny Ministerstva zdravookhraneniya Turkmenskoy SSR (dir. - Ye.S. Popova).